IN THE CLAIMS:

Please amend Claims 1 and 13 as follows.

1. (Currently Amended) A dry plasma processing method for post-etch treatment of a semiconductor structure following a dielectric etch process, wherein said semiconductor structure includes an overlying dielectric layer into which openings have been etched, wherein the dry plasma processing method comprises exposing said semiconductor structure to a high density plasma exhibiting an ionization density of at least 10^{11} e^-/cm^3, generated from a source gas comprising oxygen, a nitrogen-comprising gas, and a reactive gas comprising hydrogen, carbon, and fluorine, and wherein the volumetric ratio of oxygen to nitrogen ranges from about 2.5 : 1 to about 20 : 1 , whereby etch residues and polymeric deposits are removed from a surface of said semiconductor structure.

2. (Original) The method of Claim 1, wherein said reactive gas comprises at least one hydrogen-containing fluorocarbon gas.

3. (Original) The method of Claim 2, wherein said hydrogen-containing fluorocarbon gas is selected from the group consisting of CHF_3, CH_2F_2, CH_3F, $C_3H_2F_6$, and combinations thereof.

4. (Original) The method of Claim 1, wherein said reactive gas comprises at least one fluorocarbon gas and hydrogen.

5. (Original) The method of Claim 4, wherein said fluorocarbon gas is selected from the group consisting of C_2F_6, C_3F_6, C_3F_8, C_4F_6, C_4F_8, and combinations thereof.

6. (Original) The method of Claim 1 or Claim 2 or Claim 4, wherein said nitrogen-comprising gas is N_2.

7. (Original) The method of Claim 1, wherein said method further comprises a flushing step performed prior to said post-etch treatment.

8. (Original) The method of Claim 7, wherein said flushing step comprises exposing said semiconductor structure to a high-flow plasma comprising oxygen.

9. (Original) The method of Claim 1 or Claim 8, wherein said method further comprises a cleaning step subsequent to said post-etch treatment.

10. (Original) The method of Claim 9, wherein said cleaning step is performed while said semiconductor structure is present in said process chamber.

11. (Previously Presented) The method of Claim 9, wherein said cleaning step is performed after said semiconductor structure is removed from said process chamber.

12. (Original) The method of Claim 1, wherein said post-etch treatment method removes a photoresist layer overlying said dielectric layer.

13. (Currently Amended) A dry plasma processing method of post-etch treatment of a semiconductor structure following a dielectric etch process, wherein said semiconductor structure includes an overlying dielectric layer into which openings have been etched, wherein said dry plasma processing method comprises the steps of:

a) a flushing step comprising exposing said semiconductor structure to a high-flow plasma comprising oxygen;

b) a post-etch treatment step comprising exposing said semiconductor structure to a high density plasma exhibiting an ionization density of at least 10^{11} e^-/cm^3, generated from a source gas comprising oxygen, a nitrogen-comprising gas, and a reactive gas comprising hydrogen, carbon, and fluorine, and wherein the volumetric ratio of oxygen to nitrogen ranges from about 2.5 : 1 to about 20 : 1; and

c) a cleaning step comprising exposing at least a process chamber in which said dielectric etch process was performed to a medium-flow, high density plasma exhibiting an ionization density of at least 10^{11} e^-/cm^3, said plasma comprising oxygen <u>, whereby etch residues and polymeric deposits are removed from a surface of said semiconductor structure</u>.

14. (Original) The method of Claim 13, wherein said reactive gas comprises at least one hydrogen-containing fluorocarbon gas.

15. (Original) The method of Claim 14, wherein said hydrogen-containing fluorocarbon gas is selected from the group consisting of CHF_3, CH_2F_2, CH_3F, $C_3H_2F_6$, and combinations thereof.

16. (Original) The method of Claim 13, wherein said reactive gas comprises at least one fluorocarbon gas and hydrogen.

17. (Original) The method of Claim 16, wherein said fluorocarbon gas is selected from the group consisting of C_2F_6, C_3F_6, C_3F_8, C_4F_6, C_4F_8, and combinations thereof.

18. (Original) The method of Claim 13, wherein said nitrogen-comprising gas is N_2.

19 - 20. (Cancelled)

21. (Previously Presented) The method of Claim 2, wherein said hydrogen-containing fluorocarbon gas and said nitrogen-comprising gas are provided at a flow rate ratio of about 1.5 : 1 to about 6 : 1 hydrogen-containing fluorocarbon gas : nitrogen-comprising gas.

22. (Previously Presented) The method of Claim 4, wherein said fluorocarbon gas and said nitrogen-comprising gas are provided at a flow rate ratio of about 1 : 2 to about 3 : 1.

23. (Previously Presented) The method of Claim 1, wherein said dielectric layer comprises an inorganic dielectric material.

24. (Previously Presented) The method of Claim 23, wherein said inorganic dielectric material is a silicon-based oxide.

25. (Previously Presented) The method of Claim 24, wherein said silicon-based oxide is selected from the group consisting of silicon dioxide or borophosphosilicate glass (BPSG).

26. (Previously Presented) The method of Claim 14, wherein said hydrogen-containing fluorocarbon gas and said nitrogen-comprising gas are provided at a flow rate ratio of about 1.5 : 1 to about 6 : 1 hydrogen-containing fluorocarbon gas : nitrogen-comprising gas.

27. (Previously Presented) The method of Claim 16, wherein said fluorocarbon gas and said nitrogen-comprising gas are provided at a flow rate ratio of about 1 : 2 to about 3 : 1.

28. (Previously Presented) The method of Claim 13, wherein said dielectric layer comprises an inorganic dielectric material.

29. (Previously Presented) The method of Claim 28, wherein said inorganic dielectric material is a silicon-based oxide.

30. (Previously Presented) The method of Claim 29, wherein said silicon-based oxide is selected from the group consisting of silicon dioxide or borophosphosilicate glass (BPSG).